

WHAT IS CLAIMED IS:

1 1. A method for reacquiring a target in an
2 automated video tracking system, the method comprising
3 the steps of:
4 (a) selecting a desired target to be tracked;
5 (b) switching the automated video tracking
6 system to an automatic mode to initiate a tracking
7 sequence to automatically track the selected desired
8 target;
9 (c) switching the automated video tracking
10 system from an automatic mode to a manual mode if the
11 automated video tracking system encounters a period of
12 difficulty in tracking the desired target;
13 (d) reacquiring the desired target in manual
14 mode; and
15 (e) switching the automated video tracking
16 system to the automatic mode for automatic tracking of
17 the reacquired desired target without initiating a new
18 tracking sequence.

1 2. The method of claim 1, wherein step (a)
2 comprises centering the desired target in a display of a
3 scene including the desired target.

1 3. The method of claim 1, wherein step (b)
2 comprises releasing control of an input device used to
3 select the desired target.

1 4. The method of claim 1, wherein step (c)
2 comprises controlling an input device used to select the
3 desired target.

1 5. The method of claim 1, wherein step (d)
2 comprises centering the desired target in a display of a
3 scene including the desired target.

1 6. The method of claim 1, wherein step (e)
2 comprises releasing control of an input device used to
3 reacquire the desired target.

1 7. The method of claim 1, further comprising
2 the steps of:
3 calculating a confidence level indicating how
4 well the tracked target matches the selected desired
5 target; and
6 warning an operator if the confidence level
7 falls below a predetermined threshold.

1 8. An apparatus for reacquiring a target in an
2 automated video tracking system, the apparatus
3 comprising:
4 selecting means for selecting a desired target
5 to be tracked;
6 mode switching means for switching the
7 automated video tracking system to and from one of an
8 automatic mode to initiate a tracking sequence after

9 target selection to automatically track the selected
10 desired target and a manual mode;
11 reacquiring means for reacquiring the desired
12 target in manual mode if the automated video tracking
13 system encounters a period of difficulty in tracking the
14 desired target;
15 wherein after reacquiring the desired target
16 the automated video tracking system is switched back to
17 automatic mode without initiating a new tracking
18 sequence.

1 9. The apparatus of claim 8, wherein the
2 selecting means comprises an input device for centering
3 the desired target in a display of a scene including the
4 desired target.

1 10. The apparatus of claim 9, further
2 comprising:
3 a video camera for capturing video image data
4 of a scene including the desired target;
5 pan and tilt camera motors for controlling a
6 pan and tilt, respectively of the video camera; and
7 a video display for displaying the video image
8 data;

9 wherein the input device is a joystick
10 operatively connected to the pan and tilt motors such
11 that movement of the joystick controls the movement of
12 the camera through the pan and tilt motors.

1 11. The apparatus of claim 8, wherein the mode
2 selecting means comprises an input device where the
3 automated video tracking system is switched to automatic
4 mode by controlling an input device used to select the
5 desired target and the automated video tracking system is
6 switched to manual mode by releasing control of the input
7 device.

1 12. The apparatus of claim 11, further
2 comprising:
3 a video camera for capturing video image data
4 of a scene including the desired target;
5 pan and tilt camera motors for controlling a
6 pan and tilt, respectively of the video camera; and
7 a video display for displaying the video image
8 data;
9 wherein the input device is a joystick
10 operatively connected to the pan and tilt motors such
11 that movement of the joystick controls the movement of
12 the camera through the pan and tilt motors.

1 13. The apparatus of claim 8, wherein the
2 reacquiring means comprises an input device for centering
3 the desired target in a display of a scene including the
4 desired target.

1 14. The apparatus of claim 13, further
2 comprising:

3 a video camera for capturing video image data
4 of a scene including the desired target;
5 pan and tilt camera motors for controlling a
6 pan and tilt, respectively of the video camera; and
7 a video display for displaying the video image
8 data;
9 wherein the input device is a joystick
10 operatively connected to the pan and tilt motors such
11 that movement of the joystick controls the movement of
12 the camera through the pan and tilt motors.

1 15. An automated video tracking system for
2 tracking and reacquiring a target, the automated video
3 tracking system comprising:
4 a video camera for capturing video image data
5 of a scene including a desired target;
6 pan and tilt camera motors for controlling a
7 pan and tilt, respectively of the video camera;
8 a video display for displaying the video image
9 data;
10 selecting means for selecting the desired
11 target to be tracked;
12 mode switching means for switching the
13 automated video tracking system to and from one of an
14 automatic mode to initiate a tracking sequence after
15 target selection to automatically track the selected
16 desired target and a manual mode;
17 reacquiring means for reacquiring the desired
18 target in manual mode if the automated video tracking

